

CONVENTIONAL MOSFET

FIG. 1 (PRIOR ART)



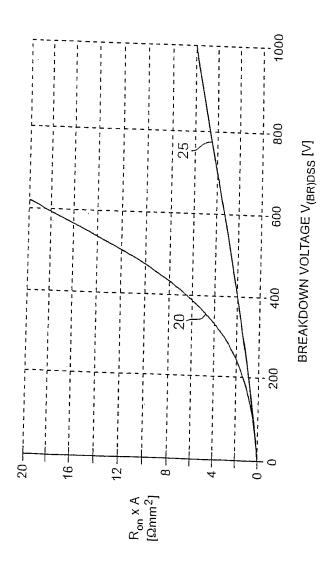
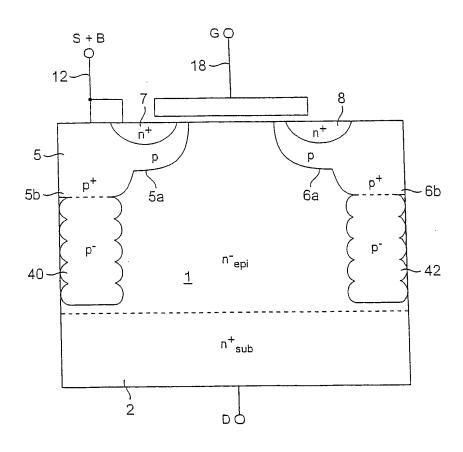


FIG. 2





THE DOPANT DISTRIBUTION OF A HIGH VOLTAGE VERTICAL DMOS TRANSISTOR WITH A RELATIVELY LOW ON-RESISTANCE

FIG. 3



- 1. GROW/DEPOSIT A TRENCH ETCH-STEP LAYER
- 2. MASK AND ETCH THE TRENCH ETCH-STEP LAYER 501-
- ETCH THE TRENCH USING A GAS THAT CONTAINS THE DESIRED DOPANT SPECIES

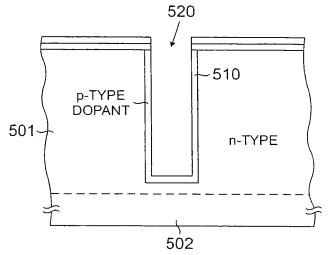


FIG. 4A

- 4. FILL THE TRENCH WITH A DIELECTRIC OR A HIGH RESISTIVITY LAYER
- 5. PLANARIZE
- 6. DIFFUSE THE DOPANT TO FORM THE DESIRED JUNCTION

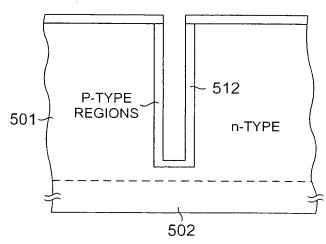
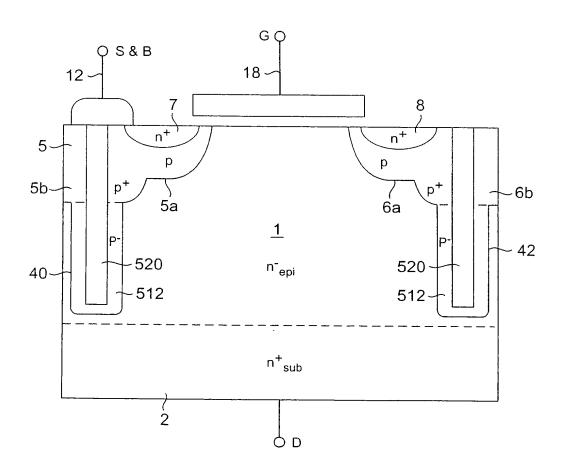


FIG. 4B





THE DOPANT DISTRIBUTION OF A HIGH VOLTAGE VERTICAL DMOS TRANSISTOR WITH A RELATIVELY LOW ON-RESISTANCE

FIG. 5